

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING 22I-0027

IN THE MATTER OF THE COMMISSION'S IMPLEMENTATION OF §40-4-120, C.R.S., THE STUDY OF COMMUNITY CHOICE IN WHOLESALE ELECTRIC SUPPLY.

IRESN RESPONSIVE COMMENTS: CALIFORNIA EXPERIENCE IMPLEMENTING COMMUNITY CHOICE ENERGY (CCE), Rev. 1, September 20, 2022

Introduction. 40-4-120(3)(c), C.R.S., directs the Commission to study Community Choice in Wholesale Electricity Supply and to explore 23 specific topics and questions. The Commission seeks comments on several additional questions as well.

Previous comments. IRESN's initial comments¹ addressed 1) solar power and energy efficiency, 2) exit fees, 3) supply portfolio balance and 4) innovation.

Introduction to responsive comments on specific topics and questions. IRESN's comments draw on Gerald Braun's 15 years of active participation in CCE feasibility determinations and implementation in northern California.

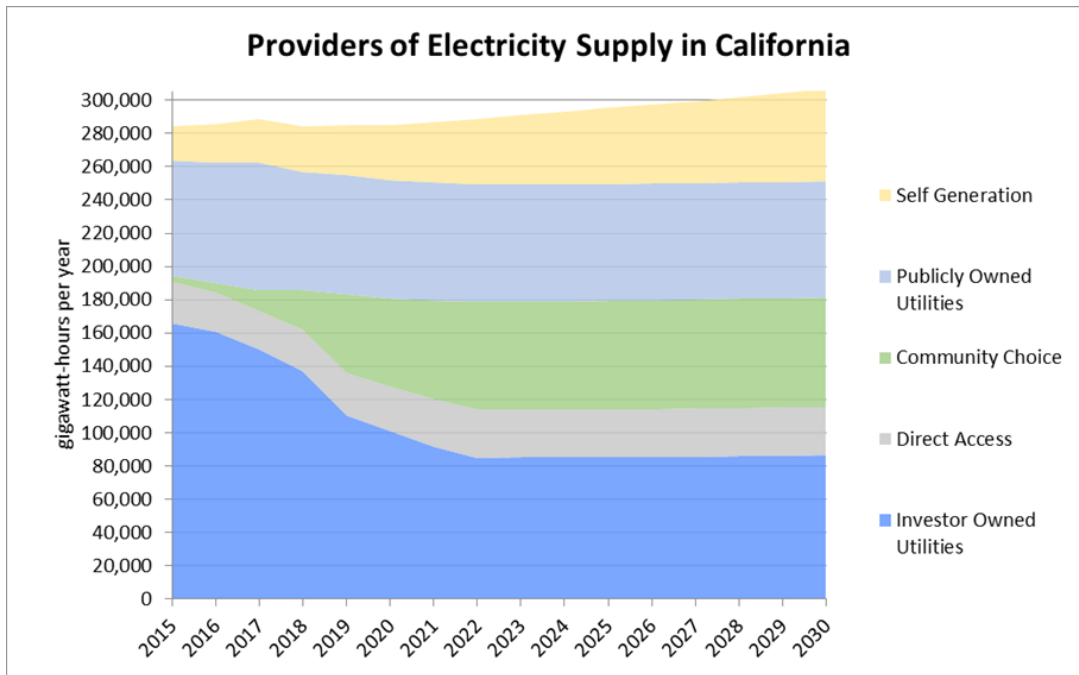
California CCEs aspire to a strong role in capturing the full economic, environmental and energy resilience potential of energy efficiency and locally produced renewable power in the areas they serve. Close ties with local governments and local electricity customers position them to support innovative, cost-efficient, locally effective program implementation in areas they serve.

By implementing CCE, California gained experience that can inform the Commission's exploration, 1) because California's implementation is on-going and robust, and 2) because wholesale renewable electric supply resources like those being deployed in California are also economically viable in Colorado. IRESN's responsive comments highlight relevant California experience.

California's AB 117 authorized CCE formation in 2002.² Much has changed since then that impacts CCE implementation, including 1) economically attractive utility scale renewable power technologies, 2) cost-competitive rooftop solar power and battery energy storage, 3) impacts of CCE formation and operations on IOU revenues and demand forecasts, 4) California's evolving energy standards and long term goals, and 5) diverse individual CCE visions, goals and

¹ Ref: https://www.dora.state.co.us/pls/efi/EFI.Show_Filing?p_session_id=462398&p_fil=G_786766

² Ref: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200120020AB117



operations.

AB 117 provided a durable, detailed and comprehensive framework for more than 20 California CCEs now operating in California. The figure above³ shows that CCEs purchase a share of California’s overall electricity supply comparable to the share provided by California IOUs. CCE purchases are accelerating progress toward California’s decarbonization goals by exceeding state standards and creating additional demand for renewable supply.

However, trust and collaboration between California CCEs and IOUs is at a low ebb. Trust and collaboration could result in:

1. Statewide electricity supply decentralization and opportunities for more resilient local electricity service;
2. Cities and counties able to determine and achieve their own best balance between locally produced and imported renewable electricity;
3. Economically beneficial integration of electricity transport infrastructure and locally owned electricity generation; and
4. Energy efficiency, demand-side management and energy resilience programs that consider and respond to local energy usage profiles and vulnerabilities.

Trust and collaboration is undermined by “exit fee” policies that no longer comport with relevant provisions of AB 117.⁴ Exit fees now exceed the costs of new bulk renewable electricity supply in

³ Sources: Data: California Energy Commission; Comparative Analysis: Robert Freehling

⁴ Exit fees were originally authorized to pay for unavoidable and verifiable stranded costs legitimately attributable to the

California. Regulatory policies appear to aim for continuous, indefinite generation rate parity between California IOUs and CCEs and thereby hold California CCE industry expansion in check.⁵

Of greater concern, current exit fee policies throttle development of California CCE organizational capacities and limit CCE financial capacity to address local needs and opportunities.⁶

The California CCE model tends to focus IOU and CCE attention on competition for generation customers. In so doing it undermines opportunities for collaboration. California's model also tends to focus CCE attention on wholesale electricity procurement, utility scale solar power and utility scale battery storage.

The current California CCE model is evolving incrementally toward state and local co-regulation of CCEs and away from the original vision of local regulation. As the California CCE industry continues to mature, California's CCEs certainly need to be accountable for adherence to legislated state standards. However, active regulation by both local governing boards and California's PUC leads to conflicts, risks and unpredictable consequences.

California could adopt remedial principles to enable more accurate CCE cost and revenue forecasts, more rapid transitions to effective local engagement and more robust CCE/IOU collaboration. Remedial principles might include:

1. A limited duration transition from state supervised local regulation to independent local regulation responsive to state standards.
2. Exit fees that begin upon customer enrollment, end five years later and are limited to unavoidable transition costs.
3. Opt-outs that are allowed prior to customer enrollment and during a subsequent one year "grace period".
4. An expectation of collaborative local CCE/IOU planning and implementation of customer-facing programs.

Potential improvements on the California CCE model include 1) CCE generation resource plans

departure of customers from IOU generation service. Since the California's PUC decided in 2018 to expand exit fees to include all above-market costs IOUs incur for generation, exit fees that California CCEs pay on behalf of their customers have become more volatile and disruptive.

⁵ Inability to accurately forecast exit fees disrupts CCE planning and operations. CCE financial planning horizons extend to the date of the next annual exit fee determination. CCE governing boards navigate exit fee increases by dipping into financial reserves, raising rates and deferring investment in customer-facing programs. Hoped-for financial and rate stability remains elusive in many cases.

⁶ Customer-facing programs currently offered by California CCEs are diverse and numerous. This bodes well. However, severely limited CCE flexibility to fund and deliver programs throughout an electricity sector transition does not. California CCEs aspire to determine and respond to local needs and opportunities in their service areas but must limit their response to avoid financial instability.

that aim for economically beneficial long term balance between centralized and decentralized electricity supply and 2) revenues that enable CCEs to address local decarbonization and energy resilience needs and opportunities.

In summary, California CCEs are a natural hub for collaborative engagement among grid owners, prosumers, counties and cities.⁷ They can innovate to adapt state policies to local conditions 1) if they are able to accurately forecast transition fees owed by departing IOU generation customers and 2) if transitions between IOU generation service and CCE generation service have a reasonable and finite duration.

Responsive comments:

(I) Additional statutory authority. California CCE authorizing legislation, AB 117, did not significantly expand or amend existing PUC statutory authorities. It authorized California’s PUC to ensure compliance with state requirements regarding CCE formation and related documentation.

(II) Appropriate scope of regulatory oversight. California cities and counties are capable of fulfilling electricity procurement and rate-setting responsibilities with minimal state oversight, just as they fulfill procurement and rate-setting responsibilities for other essential services they provide. The appropriate focus of state regulatory oversight is statutory state mandates applicable to both state regulated utilities and CCEs.

(III)(A) Resource adequacy planning. California CCEs determine their resource adequacy (RA) obligations with reference to information provided by the state. RA obligations are diligently and reliably met by operating California CCEs. As CCEs rely less on IOU owned RA capacity, misunderstandings will be less likely.

(III)(B) Assurance of reliability and how it is paid for. Overall service reliability currently depends primarily on grid infrastructure, the costs of which are recovered through rates and by electricity supply from diverse sources, the costs of which are also recovered in rates. California CCEs are responsible to supply electricity to reliably meet customer demand, to schedule the electricity they supply, and to pay related supply and scheduling costs.

(III)(C) Compliance with renewable energy standards and emissions reduction targets. Operating California CCEs meet and exceed California energy standards and emissions reduction targets. Their governing boards and community advisory committees are especially attentive to renewable and zero carbon generation portfolio percentages. In

⁷ Just as US states serve as laboratories of democracy, local communities around the US can serve as laboratories of “energy democracy”.

most cases California CCEs are already exceeding state renewable portfolio standards and are on a path to much higher renewable percentages in the coming years. Some already have zero carbon generation portfolios.

(III)(D) Supplemental demand-side management programs. Demand side projects (e.g., electrification retrofits) incented by California IOU programs can be more costly to electricity customers than projects implemented without incentive support by independent HVAC installation contractors. Some California CCEs are planning or offering DSM programs in order to manage RA costs and meet demand during peak periods. CCE selection, design and implementation of customer-facing programs results in effective outreach regarding program goals and benefits.

(III)(E) Time-of-use rates. The California PUC approved time-of-use rates proposed by investor-owned electric utilities. CCEs have the option to adopt similar or identical rates for the generation services they provide.

(III)(F) Standards for requests for proposals. California CCEs that issue requests for offers to supply electricity must comply with legislated state standards for resources that qualify for inclusion in renewable supply portfolios.⁸ They comply with standards applicable to electric corporations and energy service providers (municipal utilities, CCEs and direct access providers) regarding the mix of short and long term contracts, the mix of renewable and other resources, and the resources that qualify.

(IV) Principles and considerations applicable to transition fees. Transition fees that would allow IOUs to collect revenues to off-set temporary above-market costs of excess generation capacity differ from exit fees imposed on departing IOU customers. California imposes exit fees. The share of the electricity supplied in IOU service territories sourced by California CCEs has expanded over several years, allowing time for IOUs to make prudent adjustments in their procurement plans and obligations. California IOUs have used California's electricity market to dispose of "excess" renewable electricity supply and renewable energy attributes. However, California continues to impose exit fees. Exit fees now account for as much as 40% of overall generation rates California CCEs must charge to recover their costs and continue providing generation service. Exit fees have increased several-fold over the last few years and are of existential concern to both new and more mature California CCEs. California lacks a transparent process to enable its CCEs to accurately forecast yearly exit fees over a multi-year planning horizon for rate-setting and other purposes. California exit fees are no longer limited to a CCA customer's fair share of unavoidable above-market costs of state-mandated long term renewable electricity purchases. As of 2018, they also include above-market costs of legacy IOU owned generation. As a result, the sum of exit fees and

⁸ California CCEs outsource power procurement operations until they can be implemented by permanent staff having requisite experience. CCE RFPs incorporate power procurement best practices.

IOU generation rates will roughly average out over time to match CCE power procurement costs until reforms are effected.

(IV)(A) The age or the date of initial service of generation assets and existing contracts; California sets no limits on the age or the date of initial service of generation assets and existing contracts that impact exit fees, nor does it set any limit on the duration of a transition from IOU to CCE generation service.

(IV)(B) The potential for exit fees to vary over time or by location. California exit fees vary according to IOU service territory. Year to year variation is now limited to 25%.⁹

(IV)(C) Exit Fee Expiration. AB 117 provided for a CCE customer's exit fee responsibility to begin upon purchase of electricity from a CCE and a continue until "the expiration of all then existing electricity purchase contracts entered into by the electrical corporation."¹⁰

(IV)(D) Measures to mitigate exit fees. California IOUs have not entered into broad discussions of potential contract transfer or resale to CCE authorities or other buyers, nor have CCEs had access to information about contract pricing that would enable them to evaluate possible contract transfers. Forecasting of departing load to avoid over-procurement has been problematic in the context of IOU and PUC preferences to continue providing state regulated generation services in as many jurisdictions as possible.

(IV)(E) Pitfalls encountered in other states related to exit fees. California CCEs navigate three primary pitfalls, 1) unpredictable, non-transparent exit fee determinations, 2) inadequate revenues to support CCE engagement in support of local projects and robust local programs beneficial to member jurisdiction economies, and 3) a disrupting effect of exit fees on long term CCE planning and financial stability. California's pitfalls might have been avoided if AB 117 had 1) more clearly specified departing IOU customer cost responsibilities, 2) specified a fixed period after which they could no longer be collected from a customer who had departed IOU service and 3) made clear that any changes in standards for exit fee determination are subject to approval by cognizant committees of

⁹ Ref: <https://epicenergyblog.com/2018/08/16/update-commissioner-petermans-alternative-proposed-decision-on-the-pcia/>

¹⁰ Relevant text of AB 117: "(f) A retail end-use customer purchasing electricity from a community choice aggregator pursuant to this section shall reimburse the electrical corporation that previously served the customer for all of the following:

(1) The electrical corporation's unrecovered past under-collections for electricity purchases, including any financing costs, attributable to that customer, that the commission lawfully determines may be recovered in rates.

(2) Any additional costs of the electrical corporation recoverable in commission-approved rates, equal to the share of the electrical corporation's estimated net unavoidable electricity purchase contract costs attributable to the customer, as determined by the commission, for the period commencing with the customer's purchases of electricity from the community choice aggregator, through the expiration of all then existing electricity purchase contracts entered into by the electrical corporation."

the state legislature.

(V) Opt-out conditions, limitations, and procedures. California's opt-out process is basically unconditional, unlimited and procedurally simple. This made sense twenty years ago when AB 117 was enacted.¹¹ Now it has significant unintended consequences. Specifically, vulnerability to opt-outs 1) compels California CCEs to mirror and continually monitor IOU generation prices rather than to enable investment in local generation having local economic and resilience benefits, and 2) creates a need for California CCEs to invest in costly marketing, outreach, and regulatory vigilance.¹²

California's open-ended opt-out policy also contributes to an atmosphere of rivalry and distrust between California's IOUs and CCEs which tends to amplify other barriers to collaboration where collaboration would be in the public and interest and in the interest of electricity customers. Opt-out volatility also encourages rate-setting practices on both sides that over-emphasize customer retention and acquisition and delay timely implementation of rate setting focused properly and primarily on cost recovery.

(VI) Additional consumer protections. California's initial opt-out policy had the unintended consequence of creating a pathway for its IOUs to disrupt the CCA launch process by persuading local officials to vote against CCE formation and to maximize opt-outs.¹³ Through SB 790¹⁴, the California legislature created a "code of conduct" for IOU participation in local decisions regarding CCE. Specifically, the law forbade the use of IOU ratepayer funds to pay for political interventions regarding CCE.

California CCEs and California IOUs require timely local energy consumption data for purposes of load forecasting, purchases, and program management. Such data is collected by IOUs that provide transmission and distribution services in a CCE service area; currently, it may take weeks or months to reach CCE management teams, resulting in costs that could be avoided by more timely data transfer. This is a consumer protection issue within the California PUC's purview.

(VII) Start-up challenges. Funding of California CCE formation activity and initial operations is typically loaned by sponsoring cities and counties. Local banks then are willing to provide working capital. Credit ratings of California CCEs are not determined until sufficient cash reserves

¹¹ In 2002, the basic community choice model had not yet demonstrated stable, expanding capacities to meet state standards at affordable costs while accelerating achievement of state goals and minimizing impacts on over-all electricity service costs. California CCEs now overcome the limitations of the California IOU business model in many ways. For example, accelerated, cost-saving deployment of renewable power plants and a vision to expand local renewable electricity production for local use.

¹² These investments have public benefits, but they also divert attention and resources from customer-facing programs and local project investment.

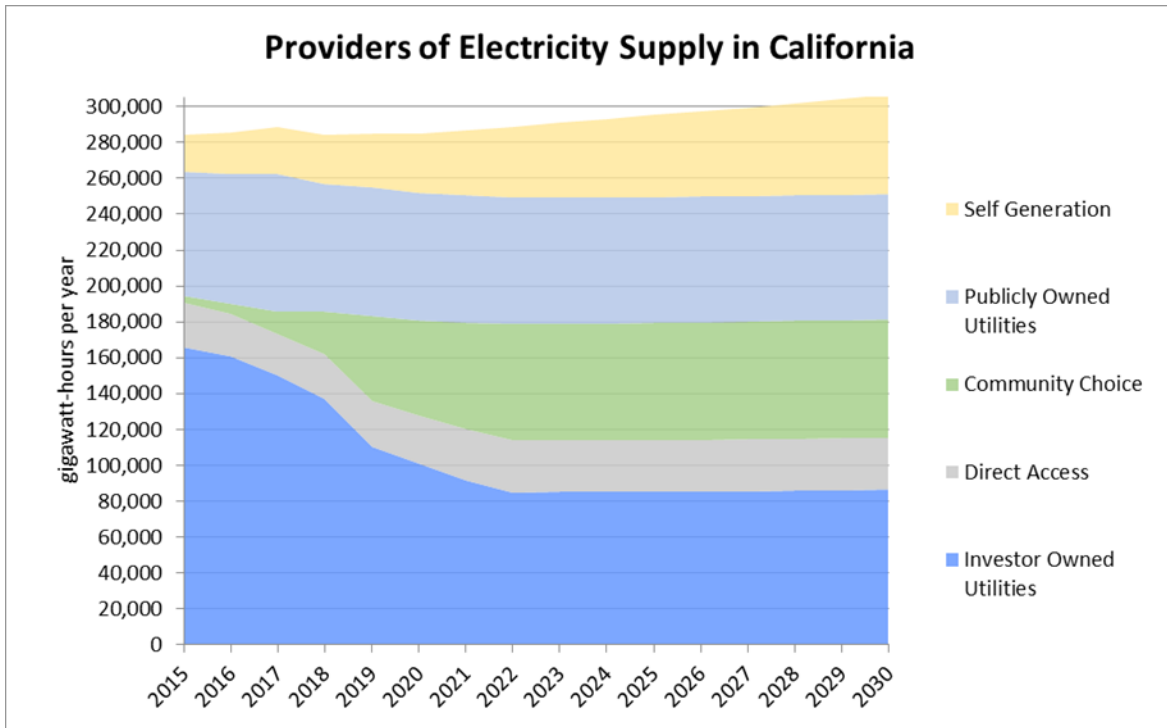
¹³ The issue came to a head in the early stages of CCE implementation in California when PG&E launched a PR campaign against CCE adoption in Marin County.

¹⁴ https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120SB790

accumulate. Reserve buildup takes more or less time depending on CCE size and launch timing and on initial rate and supply portfolio decisions. Launch timing has mattered because of the explosive increase in exit fees in recent years. CCEs launching more recently after major exit fee escalation faced (and still face) financial headwinds and have in some cases been unable to accumulate appropriate reserves or deliver savings relative to IOU generation rates. A strategy to address the challenge of high and hard to forecast exit fees and IOU generation rates in California would require more transparent IOU rate-setting and exit fee determinization processes and regulatory guard rails limiting year-on-year exit fee percentage changes to less than ten percent of costs recovered in CCE rates. Legislative clarification of the proper basis for exit fee determination is also overdue.

(VII) Wholesale opt-out model regulatory and legal issues. There are relatively few cases of litigation involving California CCEs. The major on-going regulatory issue revolves around whether applicable law regarding exit fees is being correctly interpreted.

(IX) Provider of last resort. As the figure¹⁵ (below) shows, California relies on a mix of five major electricity sources, including generation and purchases by California IOUs. In 2019, California enacted SB 520¹⁶ which agreed that the state's utilities are currently POLRs in their service territories but also instructed regulators to create a framework for other entities to take on this role.



¹⁵ Source: Data: California Energy Commission, Comparative Analysis: Robert Freehling

¹⁶ Ref: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200SB520

(X) CCE Adoption on behalf of customers. According to AB 117, “a city, county, or city and county that elects to implement a community choice aggregation program within its jurisdiction... shall do so by ordinance.” Most California CCEs are Joint Powers Agencies (JPAs) formed in compliance with California’s Joint Exercise of Powers Act.¹⁷

(XI) Demand-side management programs. California CCEs are allowed to offer demand side programs and design them to account for local needs and opportunities in collaboration with local installers and local permitting authorities. CCE demand side management programs address needs to align demand with generation profiles. A CCE also has the option to adopt a program design specific to its peak demand and related costs.¹⁸ California CCEs also have the option to propose to manage a portion of the funds collected by the IOU that are dedicated to implementation of state mandated energy efficiency programs.¹⁹

(XII) California experience relevant to regulatory and policy considerations and possible solutions related to forming CCE authorities in a state that does not currently belong to a regional transmission organization or participate in a wholesale electricity market.

(XII)(A) Legislation guaranteeing open access and fair prices for transmission services. According to 18 CFR § 35.28, IOUs, ISOs and RTOs must all file open access transmission tariffs with FERC.²⁰ California’s wholesale electricity market enabled a relatively large and rapid transition from IOU generation service to CCE generation service in northern California.²¹

¹⁷ Jurisdictions that form or join a JPA contract with one another to form a new entity that has independent legal rights, including the ability to enter into contracts, hold property and sue or be sued. A jurisdiction, typically a county but sometimes a leading city, may initiate and fund a feasibility investigation and then decide to proceed with CCE formation. The jurisdiction may proceed independently in the case of large or geographically isolated jurisdictions, or jointly with other nearby jurisdictions in order to share administrative costs and minimize financial exposure. JPA formation contracts are approved by city councils and boards of supervisors of participating jurisdictions, typically based on the results of community specific supplemental feasibility studies performed by consultants as well as on investigations by appointed study groups and input provided in public forums and meetings.

¹⁸ Or to the customer class that most significantly impacts peak demand. For example, see <https://cal-cca.org/valley-clean-energy-launches-an-innovative-program-for-agricultural-customers-to-reduce-grid-stress-and-save-farmers-money/>

¹⁹ Ref: <https://www.mcecleanenergy.org/mce-news/mce-submits-188-million-energy-efficiency-business-plan-2/>

²⁰ Access to California transmission services is controlled by CAISO for high voltage transmission access and by IOUs for access at lower voltages. Prices for high voltage transmission services are regulated by FERC, and prices for lower voltage transmission services by CAISO. California IOUs determine transmission prices for each customer class. Its CCEs do not influence transmission cost recovery.

²¹ The incumbent northern California IOU, PG&E, had secured renewable supply exceeding the significantly reduced renewable portfolio obligations following multiple CCE startups. The exact process by which California’s wholesale electricity market facilitated CCE access to PG&E’s surplus bulk renewable electricity supply is hard to reconstruct, but CCEs starting up while PG&E’s portfolio obligations declined were able to secure RPS compliant generation portfolios at affordable costs. (Suffice to say California’s wholesale electricity market has produced other significantly less beneficial outcomes since its creation.) California CCE supply portfolios are now transitioning to high renewable percentages enabled by long term purchase agreements. California CCEs continue to rely on transmission system access but are economically motivated to rely less each year on wholesale electricity market purchases.

California’s independent system operator, CAISO, is more neutral to project site location than a transmission owner might be. Its wheeling charges are equitable and relatively easy to predict for purposes of bulk electricity site evaluation. In areas not subject to RTO or ISO planning and control, CCEs may incur higher than necessary costs because they may lack essential information that would enable them to hedge day ahead and hour ahead congestion and other charges.

California now needs to set fair and affordable transmission prices for community renewable supply or renewable electricity “feeding in” to local distribution systems.²² Lack thereof is a major stumbling block for California CCEs that aspire to strike an economically and environmentally appropriate balance between renewable electricity from large power plants and renewable electricity from smaller locally sited projects.

(XII)(B) Wholesale market access and development. Wholesale market access for community scale renewable and energy storage projects and aggregated on-site and vehicle-based power sources would enable California to strike the best state-wide balance between bulk electricity production and storage and “distributed” energy resources. Additional legislative and administrative measures could facilitate constructive CCE engagement regarding integrated local energy supply and usage.²³

(XII)(C) Possible need for legislative and regulatory modifications to successfully implement CCE. Legislative and regulatory modifications impacting California electric corporations and energy service providers typically specify action steps toward achievement of California’s overarching energy policies – for example renewable energy deployment and GHG emissions goals. Modifications in recent years have had the cumulative effect putting California CCEs under increasing state regulation and restricting local program implementation. New legislation and related regulation may be needed to structure CCE implementation so that 1)

²² California municipal utilities, CCEs and IOUs offer diverse power purchase offers. An inquiry is underway regarding distributed energy resources. Ref: <https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division/der-action-plan>
California CCEs purchase power from projects after they are approved for transmission services. California transmission prices are a major component of power purchase costs for new renewable power plants feeding in at all voltages, especially at distribution voltages. Electricity from projects feeding in at distribution voltages does not enter the transmission system. Yet the same transmission charges still apply, rendering smaller, local projects economically unattractive to CCEs. As a result, California CCEs are creating renewable portfolios that do not include major contributions from projects in their service areas, though some offer electricity from local projects at a price premium. Ref: <https://www.mcecleanenergy.org/100-local-solar/>

²³ California IOUs have neither the motivation nor state encouragement to address integrated local supply and usage, though at least one California IOU has been willing to provide aggregated local energy usage and solar production information necessary to integrated local energy analysis. Refs: https://www.pge.com/includes/docs/pdfs/mybusiness/environment/whatyoucando/greencommunities/GreenCommunities_SummaryPlanningReports.pdf and <https://www.iresn.org/s/Integrated-Energy-Analysis-for-Davis-CEC-500-2016-015-AP-D.pdf>

CCE and IOU roles are complementary, not competitive, and 2) IOUs and CCEs are incented to collaborate to advance state decarbonization and energy resilience goals. If California’s on-going energy sector decentralization is to be orderly and economically efficient, California will need to structure and reward IOU/CCE collaboration to facilitate investment in on-site solar, community solar and vehicle to grid infrastructure and their local integration, including integration enabled by neighborhood and community microgrids.²⁴

(XIII) Minimum requirements and standards for CCE generation suppliers. In general, expert power procurement experience has been available to CCEs (prior to and after start-up) from various sources, including power procurement consultants and agents, non-incumbent IOUs and large municipal utilities. California CCEs have adopted power procurement practices, requirements and standards informed by power procurement experience since California deregulated state regulated electricity generation three decades ago. California does not impose state-mandated minimum standards for CCE generation suppliers per se. CCEs typically adopt standards recommended by their initial power procurement and scheduling agents and consultants; they may specify project attributes that disqualify projects from consideration based on local preferences. For example, a CCE might have preferences regarding procurement of renewable energy credits, and/or might prefer not to import electricity from other states, and/or might disqualify projects from consideration that are sited in areas that are environmentally sensitive or that do not yet have access to transmission. Some California CCEs have minimum standards for projects they classify as relying on local resources; such standards define the “local” designation and reflect local priorities regarding land use, etc. California CCEs have begun forming consortia that enable multiple CCEs to secure shares of the output of large generation or storage projects, thus capturing project scale economies otherwise unavailable to individual CCEs.²⁵

(XIV) IOU data sharing in support of CCE feasibility investigations. California cities or counties that initiate a CCE feasibility investigation typically start by funding a technical study that relies on detailed electricity usage information California cities and counties can request from the incumbent IOU.²⁶ There has been no need to impose additional data-sharing requirements on IOUs that are specific to CCE feasibility evaluation ~~or implementation~~ needs.

²⁴ California’s on-site solar arrays, community solar projects and EV batteries are the emerging trifecta of rapidly deployed, cost- and climate-saving electricity sources enabling rapid local decarbonization and energy resilience, especially in areas blessed with abundant sunshine.

²⁵ Ref: <https://cacommunitypower.org/>

²⁶ California IOUs are required to provide detailed customer usage information for a city or county at the city or county’s request and cost. In the early stages of CCE formation in northern California, PG&E had a program that provided jurisdiction-specific annual energy usage and GHG emissions profiles and trend information (on request and at no cost). The information was valuable to some northern California local jurisdictions in determining whether to commit funds to a formal and transparent CCE feasibility evaluation. Typically, the IOU’s cost of data aggregation and formatting is modest and paid by the city or county. Other necessary data and information, including, for example, cost

(XV) CCE potential to facilitate or impede state energy purposes and goals.

(XV)(A) Increased integration of distributed energy resources, such as rooftop solar, community solar, and battery energy storage into distribution systems. The California CCE business model generates revenues by purchasing bulk electricity and reselling it to retail electricity customers. Integration of distributed energy supply and storage resources can shift electricity usage to times of day when wholesale electricity prices are lower. AB 117 authorized CCE participation in ratepayer funded energy efficiency programs but did not explicitly envision or enable CCE engagement in integration of locally produced renewable electricity and locally sited battery storage. As a result, such engagement by California CCEs does not generate predictable revenues that can be applied to comprehensive, aggressive DER integration. California’s electricity corporations and energy service providers, including some CCEs, may have a conflicted view toward rooftop and other “behind the meter” solar deployment as both a parallel decarbonization enabling mechanism decarbonization and a revenue drain without compensating impacts on CCE peak generation and resource adequacy costs. If California CCEs are to take a lead role in facilitating electricity sector decentralization under current circumstances, the role must generate revenues to cover related costs. The California PUC recently issued a proposed decision intended encourage integration of rooftop solar and battery storage.²⁷ The proposed decision did not envision a role for California CCEs in on-site solar deployment, integration or rate-setting.

(XV)(B) Increased investment in beneficial electrification, including electrification of transport. California CCEs are well positioned to collaborate with jurisdictions they serve. In some cases, there are synergies between a CCEs’ energy supply sourcing experience and the jurisdictions’ energy project experience. In other cases, local jurisdictions control brownfield sites that are suitable for siting local renewable generation projects that generate power CCEs can purchase.²⁸ California CCEs have collaborated with their

and rate forecasts and long term procurement plans, is publicly accessible because it is contained in periodic filings of relevant state regulated utilities. Ref: <https://www.cityofwoodland.org/DocumentCenter/View/1448/City-of-Davis-and-Yolo-County-Technical-Study---Final-Report-PDF> The California PUC periodically convenes meetings and proceedings to facilitate data sharing and identify statutory or otherwise prudent restrictions on data sharing and use between incumbent IOUs and local jurisdictions. Likewise, the California Energy Commission began funding evaluations of available local renewable resources by cities and counties in 2008 (Ref: <https://www.iresn.org/s/Climate-Change-Clean-Energy-and-Renewable-Energy-Secure-Communities.pdf> More recently, some larger jurisdictions have self-funded such evaluations in support of formal climate action and adaptation planning. Ref: <https://www.contracosta.ca.gov/DocumentCenter/View/55843/Final-Contra-Costa-County-Renewable-Resource-Assessment-Technical-Report>

²⁷ The proposed decision generated a firestorm of opposition from local clean energy advocates and rooftops solar stakeholders. Regulatory action has been deferred pending further review. For a decision summary and analysis, see <https://www.iresn.org/s/NEM-30-Proposed-Decision-Analysis-and-Comment.pdf>

²⁸ However, California CCEs are not in a position to pay “above market” prices that would enable such project to be developed. Plus, the projects may be unable to provide sufficient benefits to all local stakeholders. Ref: <https://www.davisenterprise.com/news/local/criticism-of-brightnight-agreement-continues/>

member jurisdictions to deploy vehicle charging stations. If their credit ratings enable them to access low income housing infrastructure loans, they can now begin to finance revenue-generating vehicle charging infrastructure. They can also collaborate with member jurisdictions regarding solar electrification of buildings and transport in low income communities and neighborhoods that are “under-served” because of barriers to private investment and impaired energy user access to financing.

(XV)(C) Resource adequacy and reliability. California requires its CCEs, direct access providers and IOUs to contract for “resource adequacy” (RA).²⁹ Some California CCEs are fulfilling RA obligations by contracting for services enabled by utility scale battery storage. Battery banks are either co-located with new or existing solar power plants or located at points on the transmission grid that are heavily loaded during peak periods. CCEs can fulfill their resource adequacy obligations in this way while being compensated for related ancillary services and while engaging in wholesale electricity arbitrage based on purchasing variable renewable electricity, storing it and reselling it during high demand periods. California CCEs are beginning to voluntarily address local distribution system reliability by facilitating deployment of energy resilience assets.³⁰ However, their flexibility to exercise these options is limited in many cases by higher priority needs - for example, building up reserves in order to navigate opt out risks, volatile exit fees and unstable wholesale electricity prices.

(XVI) Customers of adjacent municipal utility and electric cooperative service territories. California CCEs do not serve customers in the certificated territories of municipally owned electric utilities or cooperative electric associations. Theoretically they could do so by agreement with incumbent service providers, and there could be mutual benefits. Public power utilities and CCEs have shared interests, but CCE generation costs (net of exit fees) are typically higher than municipal utility generation costs.³¹

(XVII) Impact of allowing CCE in California on California’s ability to reach its clean energy and greenhouse gas reduction goals. AB 117 did not envision mandatory contributions to state goals; such goals were initially set in the same year, 2002.³² California legislation establishing and

²⁹ California also requires that IOUs have feasible and committed near and long term plans in place to meet forecasted annual demand. California generates state level demand forecasts and reviews IOU and CCE integrated resource plans to ensure adequate electricity supply consistent with forecasted state-wide demand. Multiple California regulatory agencies, including the CPUC, the California Energy Commission, the California Independent System Operator, and CalEPA have statutory responsibilities and authorities impacting electricity service.

³⁰ Ref: <https://cal-cca.org/wp-content/uploads/2021/04/CCA-Resilience-Initiatives-April-2021.pdf>

³¹ California municipal utilities generally view CCEs as “public power” allies and in some cases have provided assistance to them under contract, providing wholesale electricity planning, procurement and scheduling services, customer billing and data management services and even temporarily seconded staff.

³² Ref: <https://www.cpuc.ca.gov/rps/> A legislative review is overdue to determine if current regulatory requirements and processes are consistent with achievement of long term clean energy and greenhouse gas reduction goals and are consistent with technology options, prices and industry capabilities that were not available in 2002. For example,

updating renewable portfolio standards applies equally to electric corporations, CCEs and other energy service providers. The opportunity a local CCE theoretically provides to accelerate voluntary local decarbonization is a primary motivator for CCE adoption in California. Because of public support for climate action, most California CCEs aim to provide completely carbon free or one hundred percent renewable electricity no later than 2030. Most have renewable portfolios that exceed California's RPS requirements. Some are on track to greatly exceed California's standards by 2025. One or two have even more aggressive goals; for example, one hundred percent "real" renewable electricity supply on an hour by hour basis.

(XVIII) Positive and negative impacts in states that have enabled the wholesale, opt-out model of CCE. A positive impact in California is that California CCEs are not only supporting state climate action and adaptation plans but are turbo-charging progress toward the climate action goals and adaptation plans jurisdictions they serve. Some California CCEs have achieved or expect to achieve carbon neutrality as soon as 2025. CCE employees and consultants are the leading edge of a new generation of California energy managers. They are developing 21st century energy and climate leadership and management skill sets. Local elected officials serving on CCE JPA governing boards are gaining experience and becoming better able to provide energy and climate leadership as they progress up the political ladder from city to county to state and beyond. A negative impact is over-emphasis on bulk electricity purchases and under-emphasis on sourcing electricity supply locally. California CCEs serving large high population density areas are the norm, and some are even expanding beyond these areas. They capture economies of organizational scale necessary to financial stability, credit ratings, and staff capacities. But, like their IOU counterparts, they lack capacity to tailor their product and program offerings to individual energy priorities and preferred energy futures of their disparate and politically diverse member jurisdictions.

(XIX) CCE response to impacts on low income households and communities. California IOUs offer discounted rates to low income households. California's CCEs either match these rates or in some cases offer incremental additional discounts. Many California CCEs aspire to enable siting of community solar projects in low income communities in their service territories. Many serve areas that are impacted by electricity generation but lack capacity or opportunity to directly mitigate impacts. They indirectly mitigate impacts by accelerating deployment of generation that does not impact low income communities and thereby create opportunities to shut down power plants that have adverse impacts on disproportionately impacted communities.

(XX) Risk identification and management. California CCEs manage price risks by building supply portfolios around long term renewable electricity supply contracts. California CCE governing boards address procurement and project risks by adopting risk management plans and approving annual updates. To mitigate the risk of load defection, California CCEs offer prices that are

rooftop and utility scale solar prices were several times as high as they are now and Federal tax credits were not initially available to support a transition to lower prices.

competitive with IOU generation prices. They review monthly opt-out statistics and use them to forecast load defection. Generally, individual CCE opt-outs are stable at or below 10 percent of eligible customers.

(XXI) Electricity sector job impacts. California CCEs have relatively few employees per customer relative to IOUs. Like IOUs, they out-source non-managerial work to consultants and contractors, including municipal utilities and IOUs. A typical California CCEs' permanent staff focuses on procurement, finance and customer-facing programs and ranges as high as one employee per ten thousand customers, i.e., much less than ten percent of the employee per customer ratio of large and efficiently managed California municipal utilities.

(XXII) Energy project labor and labor agreements. California IOUs and California CCEs procure power from new and existing projects in California and other states and from the wholesale electricity market operated by CAISO. They generally require that project labor agreements meet "prevailing wage" standards. Only a small number of California CCEs impose a requirement for union labor.

(XXIII) How the procurement process works and how it varies from one CCE to another. In almost all cases, a California CCEs' procurement process invites competitive offers and is designed to determine the key scope, schedule and price parameters of a specific generation or storage project. Consistent with state law, there is limited public visibility to procurement process details. CCE staff or contractors that manage power procurement and contracting will have learned the basics of electricity procurement in their prior work for municipal utilities and IOUs. Public documents and generation portfolio comparisons suggest that procurement practices vary according to whether procurement and scheduling are outsourced and according to individual CCE price stabilization strategies, credit ratings, internal capacities for contract initiation and management, policies toward development of local sources of supply, and opportunities for collaboration with member jurisdictions and prosumers.

10. CCE implementation obligations of California public utilities. California's AB 117 did not change the obligations of California public utilities except as regards CCE implementation.

10.a. Are cities, counties, combined cities and counties, or groups of cities and counties implementing CCE public utilities as defined in § 40-1-103, C.R.S.? California cities, counties, combined cities and counties, or groups of cities that AB 117 authorizes to implement CCE are not defined as public utilities.

10.b. Despite Article XX of the Colorado Constitution, does the General Assembly need to define cities, counties, combined cities and counties, and groups of cities and counties implementing CCE as municipal utilities, such that they are excluded from Commission authority or jurisdiction or

subject to limited Commission authority or jurisdiction? California's AB 117 addressed CPUC authorities regarding CCE without changing the legal definition of municipal utilities.

10.c. If it is determined by the General Assembly that cities, counties, combined cities and counties, or groups of cities and counties implementing CCE are public utilities subject to full or limited Commission authority or jurisdiction, should those cities, counties, combined cities and counties, or groups of cities and counties be assessed fees by the Department of Revenue pursuant to § 40-2-112, C.R.S.? California's CCEs are not public utilities subject to PUC authority or jurisdiction except as specifically provided by AB 117.

10.d. Considering that Colorado's investor-owned utilities are currently vertically integrated, are cities, counties, combined cities and counties, or groups of cities and counties implementing CCE subject to a determination of recovery of stranded costs by the Federal Energy Regulatory Commission pursuant to Order 888? California now applies a much more expansive definition of stranded costs to its CCEs than set forth in either AB 117 or FERC Order 888.

10.e. What has been the experience in communities where CCE has been implemented with regard to the overall cost of electricity provided to CCE participating customers as compared to similarly situated customers opting to receive bundled service from the incumbent investor-owned electric utility? Combined IOU and CCE electricity costs are roughly at parity with costs paid by customers that opted out and that are receiving bundled service

10.f. Should the renewable energy standards detailed in § 40-2-124, C.R.S., for municipally owned utilities apply to cities, counties, combined cities and counties, and groups of cities and counties implementing CCE, or should the renewable energy standards detailed in § 40-2-124, C.R.S., for investor-owned utilities apply? All California electricity service providers are subject to the same renewable energy standards.

10.g. Should investor-owned utilities be obligated to offer demand-side management programs pursuant to § 40-3.2-104, C.R.S., to customers served by cities, counties, combined cities and counties, and groups of cities and counties implementing CCE, and if so, how should such programs be funded? California IOUs continued to offer DSM programs after CCE adoption began and still do.

10.h. Should investor-owned utilities be obligated to offer net metering incentives to customers served by cities, counties, combined cities and counties, and groups of cities and counties implementing CCE, and if so, how should such programs be funded? Net metering of solar arrays on energy user properties has been misconstrued as a subsidy in recent proposed decisions before the California PUC and in related media reports. California IOUs offered incentives for on-site solar electricity production on existing buildings through the California Solar Initiative (approved

by California's legislature in 2006). \$3B in funding was authorized and expended in the form of rebates indexed to on-site solar system capacity. In California, net energy metering serves as a way of accounting for and limiting net annual on-site net generation. The value of net on-site generation depends on whether and how external costs and benefits are considered. Both value and cost are subject to significant changes over time. California has yet to determine which costs and which values are to be considered if net solar generation transported via the grid to other local electricity users is to be valued differently than electricity moving from transmission systems to solar array owners and other electricity users. California now mandates rooftop solar for residential buildings of less than three stories. There is active debate in California regarding whether net metering rules should be modified. The CPUC is considering a proposed decision but has deferred action on it pending further review.

10.i. Should investor-owned utilities be obligated to make investments or offer incentives to facilitate the deployment of customer-owned or utility-owned charging infrastructure pursuant to § 40-5-107, C.R.S., for customers served by cities, counties, combined cities and counties, and groups of cities and counties implementing CCE, and if so, how should such programs be funded? Vehicle charging infrastructure is provided in a variety of ways in California. California IOUs facilitate deployment of customer- or other privately owned charging infrastructure in all areas they serve, including in CCE service territories. The fact that IOUs are no longer the exclusive provider of generation service in these areas does not alter the fact that vehicle charging typically requires energy transport services provided by IOUs.

10.j. Should investor-owned utilities be obligated to make investments or offer incentives to facilitate beneficial electrification pursuant to § 40-3.2-109, C.R.S., for customers served by cities, counties, combined cities and counties, and groups of cities and counties implementing CCE, and if so, how should such programs be funded? California IOUs are authorized to offer incentives to facilitate beneficial electrification wherever they provide electricity transport services.

10.k. Should investor-owned utilities be obligated to offer low-income energy assistance programs for customers served by cities, counties, combined cities and counties, and groups of cities and counties implementing CCE, and if so, how should such programs be funded? California IOUs provide assistance to their low income customers by discounting bundled rates. To avoid opt-outs, California CCEs find it necessary to index their generation rates to IOU generation rates across all rate classes. They match IOU low income rates or offer additional discounts. In general, California CCEs provide the same or slightly more assistance to their low income generation customers than California IOUs provide to their low income generation customers. In areas served by CCEs, IOUs discount the non-generation portion of a low income customer's bill, and CCEs discount the generation portion unless the customer opted out.

10.l. Should generation emissions from electricity served by cities, counties, combined cities and

counties, and groups of cities and counties implementing CCE be excluded from clean energy plans submitted by investor-owned utilities pursuant to § 40-2-125.5, C.R.S.? California IOUs influence generation emissions in areas they serve whether they are a primary or secondary provider. Their plans could helpfully compare clean energy progress in all areas they serve and with progress in other areas. However, in California such comparisons are best enabled by data collected and disseminated by state agencies.